

# MONTHLY WEATHER REVIEW.

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## INTRODUCTION.

This REVIEW contains a general summary of the meteorological conditions which prevailed over the United States and Canada during August, 1886, based upon the reports from the regular and voluntary observers of the Signal Service and from co-operating state weather services.

Descriptions of the storms which occurred over the north Atlantic Ocean during the month are also given, and their approximate paths shown on chart i. Two hurricanes which passed over the Caribbean Sea and the Island of Cuba are also traced and described. In tracing the centres of the paths of these storms, data from the reports of one hundred and eighty-two vessels have been used.

On chart i for this month are traced the paths of fourteen areas of low pressure; the average number for August during the last thirteen years being only 9.5. The storm described as number viii was very destructive in eastern Texas on the 19th and 20th, doing great damage in Galveston, and completely destroying the town of Indianola. On this chart is also given a diagram showing the barometric conditions prevailing in the immediate vicinity of Indianola at 7 a. m. of the 20th, at which time the storm was central near that place.

The report by Prof. T. C. Mendenhall, Assistant, on the earthquake which occurred on the 31st of August in the eastern portion of the United States, is an interesting feature of this REVIEW. The report is based upon data collected from Signal Service observations, thunder-storm and tornado reports, and other sources. The reports from the regular Signal Service observers were specially valuable in determining the time of occurrence and intensity of the shock in different portions of the country. Chart number vii exhibits lines of equal intensity of the shock as determined from a careful examination of the data.

Chart number viii shows the atmospherical conditions, isobars, isotherms, and wind-directions accompanying the tornadoes in western New York on August 16th, at 3 p. m.

The drought in the central sections was broken on the 12th and 13th by the copious rainfalls accompanying the heavy thunder and wind storms that occurred in nearly all parts of the afflicted districts on those days.

The mean atmospheric pressure for the month is below the normal in nearly all parts of the country.

In all parts of the country lying east of the Mississippi River, and in Louisiana and eastern Texas, the mean temperature of the month is below the normal. From the Mississippi River westward to the Pacific Ocean the month has been warmer than the average August.

The precipitation is very unequally distributed, marked

departures, both above and below the normal, occurring at adjacent stations.

No icebergs were reported in, or to the southward of, the trans-Atlantic track after the 24th, and but few were encountered in, and to the eastward of, the Strait of Belle Isle and Newfoundland during the early portion of the month.

In the preparation of this REVIEW the following data, received up to September 20, 1886, have been used, viz., the regular tri-daily weather-charts, containing data of simultaneous observations taken at one hundred and thirty-three Signal Service stations and twenty-two Canadian stations, as telegraphed to this office; one hundred and fifty-nine monthly journals; one hundred and fifty-three monthly means from the former, and twenty-two monthly means from the latter; two hundred and seventy-five monthly registers from voluntary observers; sixty-two monthly registers from United States Army post surgeons; marine records; international simultaneous observations; marine reports through the co-operation of the "New York Herald Weather Service;" abstracts of ships' logs furnished by the publishers of "The New York Maritime Register;" monthly weather reports from the local weather services of Alabama, Georgia, Indiana, Iowa, Missouri, Nebraska, New England, Ohio, and Tennessee; trustworthy newspaper extracts, and special reports.

## ATMOSPHERIC PRESSURE.

[Expressed in inches and hundredths.]

The distribution of mean pressure for August, 1886, determined from the tri-daily telegraphic observations of the Signal Service, is shown by isobarometric lines on chart ii.

The mean atmospheric pressure for the month is very equally distributed over the country. An area of comparatively high pressure extends over the Lake region, middle Atlantic states, south Atlantic states, northern Florida, east Gulf states, Tennessee and Ohio Valley; within the above districts the barometric means for the month vary from 29.95 at numerous stations to 30.01 at Nashville, Tennessee. Another area of high pressure extends along the north Pacific coast, within this area the mean pressure varies from 29.96 at Portland, Oregon, to 30.00 at Fort Canby, Washington Territory. The area of minimum pressure ranges from 29.80 to 29.85, and covers Nevada, western Utah, western Arizona, and eastern California. An area of low pressure, indicated by the isobar of 29.85, extends over the lower Saint Lawrence valley.

The departures, which are nowhere very great, are in almost every case below the normal. The mean pressure is above the normal for August at three stations only, viz., Fort Apache, Arizona, Deadwood, Dakota, and Cedar Keys, Florida, .02, .01, and .01, respectively. In the Lake region, New England, and the middle and south Atlantic states, the mean pressure for the month shows a deficiency of about .05, although at Sandy Hook and Atlantic City, New Jersey, the departures are .08 and .07, respectively. Along the Pacific coast the deficiencies range from .02 to .07. The largest departures occur in the Missouri Valley, where they vary from .06 to .09. Slight deficiencies occur over all other portions of the country, and vary from .01 to .08.